

Please provide the following information, and submit to the NOAA DM Plan Repository.

Reference to Master DM Plan (if applicable)

As stated in Section IV, Requirement 1.3, DM Plans may be hierarchical. If this DM Plan inherits provisions from a higher-level DM Plan already submitted to the Repository, then this more-specific Plan only needs to provide information that differs from what was provided in the Master DM Plan.

URL of higher-level DM Plan (if any) as submitted to DM Plan Repository:

1. General Description of Data to be Managed**1.1. Name of the Data, data collection Project, or data-producing Program:**

2006 Texas Water Development Board (TWDB) Lidar: Northern Cameron and Willacy Counties

1.2. Summary description of the data:

Using a LH Systems ALS50 Light Detection And Ranging (LiDAR) system, standard density (1.4 meter ground sample distance) data were collected over areas in Northern Cameron and Willacy Counties, TX (approximately 1021 square miles). Multiple returns were recorded for each laser pulse along with an intensity value for each return. The data are bare earth classified. The data acquisition occurred in 36 missions between December 14, 2005 and February 23, 2006.

The data was collected by Sanborn Mapping Company, Inc. for the Texas Water Development Board (TWDB) and the Federal Emergency Management Agency (FEMA).

Data arrived at NOAA OCM (formerly CSC) with a number of tiles without classified ground points. This caused issues in the automated delivery of data through the Digital Coast. As a result, users would request ground points (because the data parameters included ground) in areas without this classification. This caused data errors. In order to improve the data use and eradicate errors in automation, a software known as lasground was used to classify unclassified points to ground. The new files were replaced on the internal servers and on the ftp server.

Original contact information:

Contact Name: Ryan Mitchell

Contact Org: Texas Natural Resources Information System (TNRIS)

Phone: 512-463-8337

Email: lidar@tnris.state.tx.us

1.3. Is this a one-time data collection, or an ongoing series of measurements?

One-time data collection

1.4. Actual or planned temporal coverage of the data:

2005-12-14 to 2006-02-23

1.5. Actual or planned geographic coverage of the data:

W: -98.018265, E: -97.145144, N: 26.616343, S: 26.006739

1.6. Type(s) of data:

(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)

1.7. Data collection method(s):

(e.g., satellite, airplane, unmanned aerial system, radar, weather station, moored buoy, research vessel, autonomous underwater vehicle, animal tagging, manual surveys, enforcement activities, numerical model, etc.)

1.8. If data are from a NOAA Observing System of Record, indicate name of system:**1.8.1. If data are from another observing system, please specify:****2. Point of Contact for this Data Management Plan (author or maintainer)****2.1. Name:**

NOAA Office for Coastal Management (NOAA/OCM)

2.2. Title:

Metadata Contact

2.3. Affiliation or facility:

NOAA Office for Coastal Management (NOAA/OCM)

2.4. E-mail address:

coastal.info@noaa.gov

2.5. Phone number:

(843) 740-1202

3. Responsible Party for Data Management

Program Managers, or their designee, shall be responsible for assuring the proper management of the data produced by their Program. Please indicate the responsible party below.

3.1. Name:**3.2. Title:**

Data Steward

4. Resources

Programs must identify resources within their own budget for managing the data they produce.

4.1. Have resources for management of these data been identified?

4.2. Approximate percentage of the budget for these data devoted to data management (specify percentage or "unknown"):

5. Data Lineage and Quality

NOAA has issued Information Quality Guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information which it disseminates.

5.1. Processing workflow of the data from collection or acquisition to making it publicly accessible

(describe or provide URL of description):

Process Steps:

- 2007-08-01 00:00:00 - Data Collection: Using a LH Systems ALS50 Light Detection And Ranging (LiDAR) system, standard density (1.4 meter ground sample distance) data were collected over areas in Northern Cameron and Willacy Counties, TX (approximately 1021 square miles). Multiple returns were recorded for each laser pulse along with an intensity value for each return. The data acquisition occurred in missions between December 14, 2005 and February 23, 2006. During the LiDAR campaign, the Sanborn field crew conducted a GPS field survey to establish final coordinates of the ground base stations for final processing of the base-remote GPS solutions.
- 2007-08-01 00:00:00 - Airborne GPS Processing: Airborne GPS data was differentially processed and integrated with the post processed IMU data to derive a smoothed best estimate of trajectory (SBET). The SBET was used to reduce the LiDAR slant range measurements to a raw reflective surface for each flight line. The overlap between flight lines was removed to provide a homogeneous coverage, and the coverage was classified to extract a bare earth digital elevation model (DEM). Airborne GPS is differentially processed using the GrafNAV V7.50 software by Waypoint Consulting of Calgary, Alberta, Canada. The PDOP and distance separation is as follows: 1. IMU data is processed using the PosPac V4.2 software by Applanix Corporation of Richmond Hill, Ontario, Canada. 2. The reflective surface is derived using the ALS Post Processor software by Leica Geosystems GIS & Mapping Division of Atlanta, Georgia. 3. The classification and quality control (QC) of LiDAR data is carried out using TerraScan software by Terrasolid Limited of Helsinki, Finland.
- 2007-08-01 00:00:00 - IMU data Processing: IMU data provides information concerning roll, pitch, and yaw of collection platform during collection event. IMU information allows the pulse vector to be properly placed in 3D space allowing the distance from the aircraft reference point to be properly positioned on the elevation model surface. IMU data is processed using the PosPac V4.2 software by Applanix Corporation of Richmond Hill, Ontario, Canada.

- 2007-08-01 00:00:00 - Reflective Surface Generation: The reflective surface is derived using the ALS Post Processor software by Leica Geosystems GIS & Mapping Division of Atlanta, Georgia.
- 2007-08-01 00:00:00 - LIDAR Point Classification The classification and quality control (QC) of LiDAR data is carried out using TerraScan software by Terrasolid Limited of Helsinki, Finland.
- 2007-08-01 00:00:00 - Output LAS Files The product output of LiDAR data is carried out using TerraScan software by Terrasolid Limited of Helsinki, Finland. LAS Binary, ascii xyz, and intensity images were created.
- 2015-08-31 00:00:00 - The NOAA Office for Coastal Management (OCM) received the files in las format in July 2008. The files contained Lidar elevation and intensity measurements. The data was in UTM projection, and NAVD88 Geoid 03 vertical datum. OCM performed the following processing to the data to make it available within the Digital Coast: 1. The data were converted from UTM coordinates to geographic coordinates. 2. The data were converted from NAVD88 (orthometric) heights to GRS80 (ellipsoid) heights using Geoid 03. 3. The LAS data were sorted by latitude and the headers were updated. NOAA OCM also performed a macro level review of this data set. This review involved checking for format and point characteristics in about 5% of the tiles. In addition, the entire data set was reviewed to establish that bare-earth processing and proper classification of the points had been performed. This review did not include accuracy or data-processing (e.g., bare-earth quality, flightline mismatch, feature removal) assessments. Please refer to the Supplemental Information above for more information about this review. In August, 2015 effort were made to add more ground points to this project. For reference to which tiles had ground points prior to this process, please consult the lidar report provided in the Supplemental Information section. LasTools' lasground uses an algorithm to classify 'unclassified' points (only within tile that did not have classified ground points) to that particular 'ground' (Class 2).

5.1.1. If data at different stages of the workflow, or products derived from these data, are subject to a separate data management plan, provide reference to other plan:

5.2. Quality control procedures employed (describe or provide URL of description):

6. Data Documentation

The EDMC Data Documentation Procedural Directive requires that NOAA data be well documented, specifies the use of ISO 19115 and related standards for documentation of new data, and provides links to resources and tools for metadata creation and validation.

6.1. Does metadata comply with EDMC Data Documentation directive?

No

6.1.1. If metadata are non-existent or non-compliant, please explain:

Missing/invalid information:

- 1.6. Type(s) of data
- 1.7. Data collection method(s)
- 3.1. Responsible Party for Data Management
- 4.1. Have resources for management of these data been identified?
- 4.2. Approximate percentage of the budget for these data devoted to data management
- 5.2. Quality control procedures employed
- 7.1. Do these data comply with the Data Access directive?
 - 7.1.1. If data are not available or has limitations, has a Waiver been filed?
 - 7.1.2. If there are limitations to data access, describe how data are protected
- 7.4. Approximate delay between data collection and dissemination
- 8.1. Actual or planned long-term data archive location
- 8.3. Approximate delay between data collection and submission to an archive facility
- 8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?

6.2. Name of organization or facility providing metadata hosting:

NMFS Office of Science and Technology

6.2.1. If service is needed for metadata hosting, please indicate:

6.3. URL of metadata folder or data catalog, if known:

<https://www.fisheries.noaa.gov/inport/item/50032>

6.4. Process for producing and maintaining metadata

(describe or provide URL of description):

Metadata produced and maintained in accordance with the NOAA Data Documentation Procedural Directive: https://nosc.noaa.gov/EDMC/DAARWG/docs/EDMC_PD-Data_Documentation_v1.pdf

7. Data Access

NAO 212-15 states that access to environmental data may only be restricted when distribution is explicitly limited by law, regulation, policy (such as those applicable to personally identifiable information or protected critical infrastructure information or proprietary trade information) or by security requirements. The EDMC Data Access Procedural Directive contains specific guidance, recommends the use of open-standard, interoperable, non-proprietary web services, provides information about resources and tools to enable data access, and includes a Waiver to be submitted to justify any approach other than full, unrestricted public access.

7.1. Do these data comply with the Data Access directive?

7.1.1. If the data are not to be made available to the public at all, or with limitations, has a Waiver (Appendix A of Data Access directive) been filed?

7.1.2. If there are limitations to public data access, describe how data are protected from unauthorized access or disclosure:

7.2. Name of organization of facility providing data access:

NOAA Office for Coastal Management (NOAA/OCM)

7.2.1. If data hosting service is needed, please indicate:

7.2.2. URL of data access service, if known:

<https://coast.noaa.gov/dataviewer/#/lidar/search/where:ID=98>

https://coast.noaa.gov/htdata/lidar1_z/geoid18/data/98

7.3. Data access methods or services offered:

This data can be obtained on-line at the following URL: <https://coast.noaa.gov/dataviewer>;

7.4. Approximate delay between data collection and dissemination:

7.4.1. If delay is longer than latency of automated processing, indicate under what authority data access is delayed:

8. Data Preservation and Protection

The NOAA Procedure for Scientific Records Appraisal and Archive Approval describes how to identify, appraise and decide what scientific records are to be preserved in a NOAA archive.

8.1. Actual or planned long-term data archive location:

(Specify NCEI-MD, NCEI-CO, NCEI-NC, NCEI-MS, World Data Center (WDC) facility, Other, To Be Determined, Unable to Archive, or No Archiving Intended)

8.1.1. If World Data Center or Other, specify:

8.1.2. If To Be Determined, Unable to Archive or No Archiving Intended, explain:

8.2. Data storage facility prior to being sent to an archive facility (if any):

Office for Coastal Management - Charleston, SC

8.3. Approximate delay between data collection and submission to an archive facility:

8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?

Discuss data back-up, disaster recovery/contingency planning, and off-site data storage relevant to the data collection

9. Additional Line Office or Staff Office Questions

Line and Staff Offices may extend this template by inserting additional questions in this section.